



# Policy Strategies

## Societal Benefits Topic Team Public Meeting

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Presented by

Mark Nordheim, ChevronTexaco

# Policy Strategies

## Task

Develop potential policies that could be implemented to encourage the use of hydrogen transportation options that provide the greatest societal benefits.

Develop potential policies that ensure the significant and increasing use of renewables for hydrogen production.



$$\left[ \frac{p^2}{2\mu} + V(r) \right] \psi(r) = E \psi(r)$$

# Policy Strategies

## Contributors

Diverse group of individuals representing Government, Industry, Environmental Organizations, Universities, National Laboratories, Trade Associations, Consulting Firms, etc.



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California Hydrogen Highways

[www.hydrogenhighway.ca.gov](http://www.hydrogenhighway.ca.gov)

# Development of Policy Strategies

## Policy Hierarchy

The major driving forces behind the development of the Hydrogen Highway are its underlying societal benefits.

Therefore, any policy created to advance its implementation are inherently Societal Benefit Policies.

Most of the Societal Benefit Policies discussed today can be integrated into the more general economic policies being developed by other Topic Teams



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# Development of Policy Strategies

## Policy Categories (Baskets)

- Hydrogen Production
- Hydrogen Fueling Infrastructure
- Vehicles and Hydrogen Fueled Equipment  
(use and manufacturing)
- Market Development (cross-cutting issues)



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# Policy Categories

## Hydrogen Production

- Feedstocks/production pathways
- Distributed generation and utility interface issues
- Home fueling



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# Policy Categories

## Hydrogen Fueling Infrastructure

- Station hardware and installation costs
- Fuel price/costs
- Siting and permitting challenges



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# Policy Categories

## Vehicles and Hydrogen-Fueled Equipment

- Private fleets
  - Captive fleets - professionally trained
  - Non captive fleets - rental car fleets, etc.
- Public fleets
  - Buses and professionally trained fleets
  - Government/Municipal general fleets
- General public
- Vehicle manufactures
- Hydrogen-fueled equipment (stationary fuel cells, etc.)



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# Policy Categories

## Market Development

Cross-cutting issues for vehicles and infrastructure



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# Policy Ideas

## Hydrogen Production

- Subsidize the sale of hydrogen with a range of sunseting financial incentives that reflect the environmental benefits of the fuel
- Promote/develop Renewable Portfolio Standards (RPS)
- Remove barriers to distributed generation
- Implement dual metering for natural gas used in home refuelers



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# Policy Ideas

## Hydrogen Fueling Infrastructure

- Create tax credits to help cover station installation and or fuel costs
- Pool fuel purchasing for government fleets to generate the throughput needed to lock in favorable purchase agreements
- Require local permitting authorities to adopt uniform codes and standards



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# Policy Ideas

## Vehicles and Hydrogen-Fueled Equipment

- Create tax credits for rental car fleets to offer hydrogen vehicles, including requirements for government employees to rent them when traveling
- Create buy down programs combined with fleet rules to increase the number of hydrogen buses.
- Offer free parking, priority parking, free tolls, HOV access, etc.
- Create favorable credits for hydrogen vehicles under State motor vehicle regulatory programs



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# Policy Ideas

## Market Development

- Create Hydrogen Economic Development Zones
- Create a Hydrogen and Renewable Energy Infrastructure Development Fund
- Create incentives to pursue technological innovation that can lead to breakthroughs in the California network



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# Screening Criteria

- Is the policy justified by strong societal benefits?
- Will the policy advance the goals of the hydrogen highway?
- Can it be executed within existing legislative/regulatory authorities?
- Is it technically, financially and/or politically feasible?
- Can the policy help avoid stranded investments?
- Is the policy “mission-critical”?
- Does it help advance a “high-value” application or involve broad multi-uses of hydrogen?
- Are the benefits short- or long-term?



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# Next Steps

- Solicit public input today
- Incorporate new strategy ideas
- Screen potential policy strategies for viability against the “Hydrogen Highway” design developed by the Blue Print Topic Team



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